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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/998,782	12/03/2001	Fred J. Reuter	TI-19560	7094

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EXAMINER

GOSSAGE, GLENN A

ART UNIT	PAPER NUMBER
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2187

DATE MAILED: 06/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/998,782		REUTER, FRED J.	
	Examiner		Art Unit	
	Glenn Gossage		2187	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 14 May 2004.

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-9 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-9 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some * c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892) 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6) <input type="checkbox"/> Other: _____
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1. The disclosure is objected to because of the following informalities:

In the claims:

In claim 1, the structure of the image(s) and tiles set forth in the claim is somewhat unclear and confusing. By way of example, the language "each tile ... disposed in a single scan line ... and a second ... number of ... scan lines" is somewhat confusing. Also, it is not entirely clear to what "image" data is being referred since there are two images set forth in the claim (see lines 3 and 12, e.g.).

Initially, it appears "having" in line 4 should be changed to --comprised of--, and --"a" (second occurrence) in line 5 changed to --having a--, for clarity. Also, in line 12, it appears "an image" should be changed to --said first predetermined number of image pixels adjacently disposed in a single scan line and said second predetermined number of adjacent scan lines of said image-- for clarity and consistency. See claim 5, lines 7-9, for example.

In claim 8, line 3, it appears "a" should be --the-- or --said-- for clarity.

In claim 8, line 4, as well as claim 9, line 3, it appears "DRAM" should be --dynamic random access memory (DRAM)-- for clarity.

Also, in claim 1, line 9, it appears "on" should be --in-- for consistency (note line 5, e.g.).

Appropriate correction is required.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 4-6, 8 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Chowdhuri et al.

With respect to claims 1 and 5, Chowdhuri et al discloses an image data processing method and system, the system including a memory (120A in Figure 4) storing image data having data words of a predetermined data width, each data word including a plurality of image pixels adjacently disposed on a single scan line [a "row" in Chowdhuri et al may be defined as being equal to a "word" within the scan lines which comprise a "tile." Note column 4, lines 31-44; column 4, line 48 to column 5, line 19; and column 6, lines 8-53, e.g., and also note that the size and configuration of a tile may be dynamically changed (see column 6, lines 39-43 and column 7, lines 37-52, e.g.)]. A set of a predetermined number of consecutive data scan lines corresponds to a two dimensional tile of the image, whereby adjacent data words store image pixels of adjacent scan lines. Here, Chowdhuri et al discloses dividing an image into a plurality of two dimensional tiles, each tile comprised of or having a first predetermined number of image pixels adjacently disposed in a single scan line or row, with each tile having a second predetermined number of adjacent scan lines or rows [Chowdhuri et al teaches that each of the tiles may be comprised of a plurality of adjacently disposed rows or scan lines (see Figure 3 and column 6, lines 51-56, e.g.)].

Chowdhuri et al also discloses that the image data processing system further includes a tile cache memory (see cache 410A in Figure 4) capable of storing a tile of image data from the memory, with the data processing system including a data processing "apparatus" connected to the memory and tile cache memory which is programmed to transfer a "tile" of image data from the memory into the tile cache memory, perform an image operation on the tile of image data stored in the tile cache memory, and transfer the tile of image data from the tile cache to the memory so as to reduce overall processing time, such as for graphics or display data (see column 4, line 60 to column 5, line 19 and column 5, lines 42-66, e.g.).

With respect to claims 2 and 6, one of ordinary skill in the art would recognize that the steps of transferring a tile of image data from the memory into the cache and performing image operations of tile data stored in the cache are sequentially repeated for each component or tile of the image data (note the plurality of tiles in Figure 3, as well as Figure 8, e.g.).

With respect to claim 4, the image processing includes reading data from the image memory, modifying the data and writing individual pixels within a data word (see column 5, line 20 to column 6, line 19, e.g.).

With respect to claims 8 and 9, Chowdhuri et al also discloses that transferring the tiles of image data between the memory and the cache includes making a predetermined number of dynamic random access memory (DRAM) page mode accesses (see column 6, lines 49-53, e.g.). wherein if a "row" or "page" is stored in a single scan line and each tile has the second predetermined number of scan lines, then the (second) predetermined number of page mode accesses may be made to access the scan lines in a tile.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chowdhuri et al in view of Mita.

Chowdhuri et al discloses an image data processing method and system including a memory storing image data and a tile cache memory as in the claimed invention (see numbered paragraph 2 above). Chowdhuri et al also discusses accessing data in a plurality of tiles (see column 8, lines 1-3, e.g.), but does not teach providing multiple processors to operate upon different tiles or components of the image data simultaneously.

Mita similarly discloses an image data processing apparatus and teaches providing a plurality of processors or processing elements for simultaneously processing or operating upon differing components of the image data so as to increase processing speed (see column 33, line 51 to column 34, line 60 and Figures 57-59, e.g.). Accordingly, it would have been readily obvious to one of ordinary skill in the art at the time the claimed invention was made to utilize multiple processors to simultaneously operate upon differing tiles or components of image data, as taught by Mita, in the image processing system of Chowdhuri et al, in order to process the image data at

high speed, high speed processing being a highly desirable feature in image data processing due to the amount of data included in an image.

4. Applicant's arguments filed May 14, 2004, insofar as applicable, have been considered but are not persuasive. It is believed applicant's arguments have been addressed in the preceding paragraphs (note particularly numbered paragraph 2).


5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenn Gossage whose telephone number is 703-305-3820.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks, can be reached on 703-308-1756.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


GLENN GOSSAGE
PRIMARY EXAMINER
ART UNIT 2187